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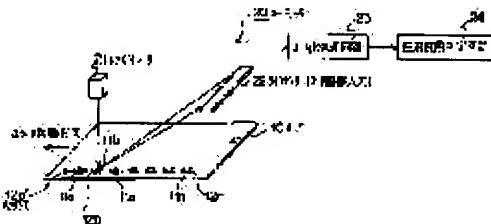
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(54) INFORMATION RECORDING MEDIUM

(57)Abstract:

PURPOSE: To prevent rewriting of irreversible data such as a punch hole.

CONSTITUTION: The code parts 11a-11n coded in accordance with the frequency of use are provided at positions corresponding to the frequency of use on a substrate. After a code part is used as many times as the frequency of use, the code part is removed or destroyed. The code parts 11a-11n are recorded by a hologram system and preferably made smaller than a region to be removed or destroyed.



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2. **** shows the word which can not be translated.
3. In the drawings, any words are not translated.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] the information record medium with which this invention recorded the information corresponding to use frequencies, such as a prepaid card and a ticket, -- being related -- especially -- punch -- it is related with the information record medium which adds irreversible data, such as a hole, and displays use frequency

[0002]

[Description of the Prior Art] prepaid cards, such as the former and this kind of information record medium (registered trademark), for example, a telephone card etc., -- except for magnetic data -- a base material -- punch -- use of an altered prepaid card is prevented by adding irreversible data, such as opening a hole

[0003]

[Problem(s) to be Solved by the Invention] however, the conventional information record medium mentioned above -- a base material -- punch -- the case where a hole is opened -- the punch -- there was a problem that do not bury a hole by punch dregs, or stuck the margin portion of other cards, it might be altered, and the check of use frequency was not made

[0004] the technical problem of the above-mentioned [the purpose of this invention] -- solving -- punch -- it is offering the information record medium which can prevent rewriting of irreversible data, such as a hole

[0005]

[Means for Solving the Problem] In order to solve the aforementioned technical problem, after the information record medium by this invention prepared the code section coded according to the use frequency in the position corresponding to the use frequency on a base material and used the use frequency for it, it was considered as the composition which removes or destroys the code section.

[0006] In this case, the aforementioned code section can be characterized by what is recorded by the hologram method. Moreover, the aforementioned code section can be characterized by being smaller than the field destroyed [which are destroyed and is above-removed].

[0007]

[Function] It is difficult to make it in agreement to the content of a code section, though the removed field will be filled with the removed dregs if the code section is removed or destroyed since the code section recorded on the position corresponding to use frequency by the hologram method etc. was prepared according to this invention. Since a code section is completely removed or destroyed when a code section makes it smaller than the field removed or destroyed at this time, the injustice using the remainder of a code section cannot be performed, either.

[0008]

[Example] Hereafter, with reference to a drawing etc., this invention is explained in detail about an example. Drawing 1 is drawing showing the example of the information record medium by this invention. The card 10 of this example makes prepaid cards, such as a telephone card, an example, and

code sections 11a-11n are formed in the position corresponding to use frequency. Code sections 11a-11n are recorded by the hologram method, and a different code corresponding to use frequency is given. the removal schedule fields 12b-12n shown with the dashed line -- punch -- if it is the field which planned removing a base material and sticks with a hole to removal schedule field 12a, it already removes -- having -- punch -- a hole -- it is shown that it is 12a' (solid line) The removal schedule fields 12a-12n correspond to frequencies 10, 20, and 30, --, N from the left, and it is made for each code sections 11a-11n to have corresponded to [1], [2], [3], --, [n].

[0009] Next, the method of a truth judging of a card 10 is explained with the composition of a card reader 20. If it moves in the card move direction A after a card 10 is inserted in a card reader 20, a laser beam will be oscillated from the laser 21 with a lens, the hologram picture which are code sections 11a-11n will be reproduced one by one, and a reconstruction image will appear in a position. A line sensor 22 detects the reconstruction image one by one, by the coding processing circuit 23, decodes the reconstruction image of a hologram picture and outputs it to the use frequency judging circuit 24. the use frequency judging circuit 24 -- punch -- use frequency is judged by collating of the existence of hole 12a' - 12n', a code sections [11a-11n] position, and the decoded code etc.

[0010] the example of drawing 1 -- code section 11a -- punch -- a hole -- since it is 12a', a code [1] is undetectable in the position of ten frequencies on the other hand -- code sections 11b-11n -- punch -- since hole 12b' - 12n' has not opened, a hologram picture is detectable If the code decoded by the use frequency judging circuit 24 from an each code sections [11b-11n] position at this time is in agreement with code [2]- [n] defined beforehand, it can judge that 10 frequency use is carried out.

[0011] now and punch -- hole 12b -- suppose that it was 'code section 11b'-11n by which the code section was buried and forged using punch dregs although -12n' (un-illustrating) had not opened' (un-illustrating) Since the code currently recorded on punch dregs cannot be viewed, the probability that the buried punch dregs will be arranged in order of code [2]- [n] defined beforehand is very small. therefore, the use frequency judging circuit 24 -- code section 11b -- it can judge with it being 'the card 10 forged when at least one code [2]- [n] beforehand determined as the code decoded from the position of -11n' differed' (un-illustrating)

[0012] moreover, punch -- code section 11b forged when the margin of a base material was stuck on the portion of hole 12b' - 12n' -- it can judge with it being 'the card 10 with which the use frequency judging circuit 24 was forged since a hologram picture was not detected from -11n"

[0013] It is not limited to the example explained above, but various deformation and change can be performed, and they are also within the limits of this invention. Although the example recorded by the hologram method explained the code section, the reduced bar code is sufficient as it. It is desirable to record in the ink which it is detected by infrared light etc. and cannot be viewed at this time. moreover, a code section -- punch -- you may be made to change into the state where a code cannot be read even if a hole etc. does not remove physically For example, you may make it destroy a hologram layer by heating a code section using a thermal head, the record pin for discharge breakdown, etc. by combing the resin layer which constitutes a hologram layer, making relief denaturalize, damaging a reflecting layer by fire, or making a surface-protection layer become cloudy. Although the example of a card 10 explained, it can be used also as an admission ticket in the event hall dispersed [two or more] etc.

[0014]

[Effect of the Invention] Since the code section was prepared in the position corresponding to use frequency according to this invention and it is very difficult to make it in agreement to the content of a code section though the field removed or destroyed will be restored by burying the removed dregs etc., if the code section is removed or destroyed as explained in detail above, forgery can be easily judged by reading the code section.

[0015] If this code section is recorded by the hologram method and reproduction conditions will not be prepared, the analysis of a code section becomes difficult, and security improves further. Since a code section is completely removed or destroyed when a code section makes it smaller than the field removed or destroyed, it also becomes impossible moreover, to perform the injustice using the remainder of a code section.

[Translation done.]